

We claim:

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1. A hardening protection composition for partial carburization of a metallic component, comprising a substance which forms boron glass and a magnesium-silicon compound.
  2. The hardening protection composition according to claim 1, wherein the substance which forms boron glass and the magnesium-silicon compound are present in a weight ratio of 2:1 to 100:1.
  - 10 3. The hardening protection composition according to claim 1 wherein the substance which forms boron glass and the magnesium-silicon compound are present in a weight ratio of 5:1 to 15:1.
  - 15 4. The hardening protection composition according to claim 2 wherein the substance which forms boron glass and the magnesium-silicon compound are present in a weight ratio of 5:1 to 15:1.
  - 20 5. The hardening protection composition according to claim 1 wherein the substance which forms boron glass and the magnesium-silicon compound are present in a weight ratio of 10:1.
  - 25 6. The hardening protection composition according to claim 2 wherein the substance which forms boron glass and the magnesium-silicon compound are present in a weight ratio of 10:1.
  - 30 7. The hardening protection composition according to claim 1 wherein the magnesium-silicon compound is a magnesium silicate, selected from the group consisting of magnesium orthosilicate ( $\text{Mg}_2\text{SiO}_4$ ), magnesium metasilicate ( $\text{MgSiO}_3$ ), magnesium trisilicate ( $\text{Mg}_2\text{Si}_3\text{O}_8$ ) and talc.

8. The hardening protection composition according to claim 1 wherein the magnesium-silicon compound is magnesium trisilicate.

5 9. The hardening protection composition according to claim 1 wherein the substance that forms boric acid is boric acid, boron oxide, alkali metal and/or alkaline earth metal borates.

10 10. The hardening protection composition according to claim 1 further comprising, 35-70 wt.% based on the total weight of an organic binder system formulated in a liquid, semi-liquid or paste-like consistency.

15 11. The hardening protection composition according to claim 9, comprising based on the total amount, 40-55 wt.% boron oxide, 3-6 wt.% magnesium trisilicate and 39-57 wt.% of an organic binder.

12. The hardening protection composition according to claim 11, comprising, based on the total amount, 45 wt.% boron oxide, 5 wt.% magnesium trisilicate and 50 wt.% of an organic binder.

20 13. The hardening protection composition according to claim 10, comprising, based on the total amount, 45 wt.% boron oxide, 5 wt.% magnesium trisilicate and 50 wt.% of an organic binder.

25 14. A method for surface hardening of metal surface comprising applying to at least a portion of said surface a composition comprising a substance which forms boron glass and a magnesium-silicon compound, and there after subjecting said surface to a surface hardening treatment.

15. The method according to claim 14 wherein said surface hardening treatment is carburization at 900-980 °c.
16. The method according to claim 14 further comprising there being present in said composition an organic binder.
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